Sacramento River Temperature Task Group (SRTTG) Meeting
Thursday, June 23, 2016 | 1:00 pm – 2:15 pm

MEETING SUMMARY

Participants

- Don Bader, USBR
- Matt Brown, USFWS
- Eric Danner, NMFS
- Ken Emanuel, SWRCB
- Robert Franklin, Hoopa Valley Tribe
- John Hannon, USBR
- Derek Hilts, USFWS
- Josh Israel, USBR
- Liz Kiteck, USBR
- Dan Kratville, CDFW
- Duane Linander, CDFW
- Ron Milligan, USBR
- Joe Pisciotto, CDFW
- Diane Riddle, SWRCB
- Jeff Rieker, USBR
- Jason Roberts, CDFW
- Richard Satkowski, SWRCB
- Jim Smith, USFWS
- Brycen Swart, NMFS
- Thuy Washburn, USBR
- Mike Wright, USBR
- Garwin Yip, NMFS
- Mike Harty, Kearns & West (Facilitator)

Note-taking:

- Briana Seapy, Kearns & West

Action Items:

- USBR will distribute a link to online CVO information
- USBR will consider adding a Balls Ferry daily average temperature column to the 7DADM information sheet
- USBR will include Whiskeytown and Trinity isothermal profiles on CVO information page and update as is feasible
- USBR will link to University of Washington water temperature SACPAS website and distribute the link to the SRTTG
- USBR will confirm with Diane Riddle (SWRCB) availability to attend SWRCB meeting on July 6th and provide SRTTG informational update
- Briana Seapy will confirm the FWS Red Bluff office as the July 28 SRTTG meeting venue by July 14

Key Discussion Topics with Summary of Outcomes and Agreements

USBR advised participants that temperature plan development is still underway and that USBR is continuing to engage in conversations with NOAA, CDFW, and USFWS to develop a feasible temperature plan with achievable goals. USBR aims to complete the plan by the end of June. The

planning process has taken longer than usual in order to carefully consider years of drought conditions. Accordingly, the 12-month forecast has not yet been released.

Fishery Update

See CDFW carcass and redd count tables, below:

2016 Winter-Run Carcass counts by river area as of 6-20-16

Section	Carcasses	2016 Percent	% Average years (2003-2015)
1- Keswick Dam to ACID Dam (rm 302 to 298)	11	19.0%	36.5%
2- ACID Dam to Hwy 44 Brg (rm 296)	26	44.8%	38.8%
3- Hwy 44 Brg down to Clear Crk Powerlines (rm 288)	13	22.4%	21.4%
4- Clear Crk Pwrl to Balls Ferry Brg (rm 276)	8	13.8%	3.2%
Total	58	100.0%	100.0%

2016 Winter-Run aerial Redd counts by river area as of 6-20-16

Flight Sections		river mile	Redds	2016 Percent	% Average (2003-2015)
Keswick to A.C.I.D. Dam.	Carcass Section 1	298	0	0.0%	44.5%
A.C.I.D. Dam to Highway 44 Bridge.	Carcass Section 2	296	6	75.0%	43.6%
Highway 44 Br. to below Clear Crk	Carcass Section 3	284	2	25.0%	11.3%
Below Clear Crk. to Balls Ferry Br.	Carcass Section 4	275	0	0.0%	0.0%
Balls Ferry Br. to Battle Creek.	Below Carcass	271	0	0.0%	0.2%
Battle Creek to Jellys Ferry Br.	Below Carcass	266	0	0.0%	0.1%
Jellys Ferry Br. to Bend Bridge	Below Carcass	257	0	0.0%	0.1%
Bend Bridge to Red Bluff Diversion Dam	Below Carcass	242	0	0.0%	0.1%
Red Bluff Diversion Dam to Tehama Br.	Below Carcass	229	0	0.0%	0.0%
		total	8	100%	100%

CDFW summarized the status of redd and carcass counts, noting that this year's carcass count is the second lowest on record (only 2011 lower). It is still too early to tell what this year's population estimate could be, but CDFW will begin working on a draft estimate in late July. The absence of redds observed in the upper reaches could be a product of limited visibility, perhaps due to the winter-run spawning in deeper water which makes them difficult to detect during aerial surveys. Other hypotheses exist; for example, if temperatures are much colder in a river section than they have been in past years, fish may not be travelling as far upstream in search of cooler waters.

USFWS reported on brood stock collection for the Livingston Stone National Fish Hatchery. USFWS began the season only collecting natural origin fish, but has since begun collecting hatchery fish to address CDFW and NMFS concern over low production numbers. USFWS has captured 41 females and 40 males. Ten females have already been spawned. Catch has declined, but USFWS is continuing trap operations. 150,000 is the projected juvenile release this year, which is lower than the normal 200,000. Collection of juvenile winter run at the Red Bluff Diversion Dam rotary screw traps will likely start in July and accelerate in September and August. Traps are also catching record numbers of green sturgeon.

USFWS reported that Clear Creek is undergoing its third pulse flow, and that monitoring of pulse flows suggests there are approximately 72 spring run in the system as of the second week of June. For comparison, in June, 2013 there were almost 700 fish in the system. USFWS noted that the run is not over, though it generally finishes by the end of June or early July. All of the spring run adults have been observed downstream of the IGO temperature compliance point. Even though the temperatures

are adequate now, USFWS wants to increase temperatures in Clear Creek to motivate fish to move upstream, avoiding potentially high future temperatures and the risk of hybridization with fall run chinook. Once the pulse flow is complete USFWS will work with USBR to maintain flows at the lowest level possible that still enables temperature criteria compliance.

Hydrology & Operations update

(See June 23 Meeting Agenda and Handout for the following reference materials: Mean Daily Water Temperatures; Redding 10-day Forecasted Air Temperatures; Sac River Gage Temp Plot and Air Temp Plot; Lake Shasta Isothermal Baths Plot; Lake Shasta Current TCD Configuration; information is available on CVO's web-page)

USBR reviewed system flows and confirmed that Shasta releases are around 9,000 cfs and Trinity releases are around 2,000 cfs. At Clear Creek, the pulse flow will continue at 800 cfs through June 24 at which time it will begin to decrease through July 9 to 125 cfs. Delta water quality and outflows seem sufficient.

USBR reviewed system water temperatures and specified that CVO is tracking ~51° F at TCD and ~52° F at KWK. To prepare for increasingly warmer temperatures and to manage for high water temperature at Balls Ferry, USBR closed the third upper gate on June 21 and, if needed, will open an additional middle gate to decrease water temperatures downstream.

USBR reviewed June air temperatures. Record high temperatures at the start of June were balanced out by lower temperatures in mid-June, and now temperatures are rising again. USBR will continue to target ~52° F at KWK, adjusting gates as necessary to mitigate for high air temperatures.

The Lake Shasta isothermal profile is from June 20. USBR plans to update isothermal profiles every Monday. Data anomalies could be attributed to data collection variability. Gathering data from the lowest lake depths is difficult and subject to imperfect conditions like deep-water currents.

The Shasta TCD configuration handouts show where water is being released. The first handout shows that three of the upper gates are currently closed, the third of which was closed on June 21. The second handout corresponds to the isothermal profile taken on 6/20 at which point only two upper gates were closed. Importantly, USBR must have at least 5 gates open at all times. The gate configuration currently allows USBR to achieve the ~52° F temperature target at KWK.

June Temperature Studies

(See June 23 Meeting Agenda and Handout and *7DADM handout*)

USBR reviewed the June 90% Temperature Model run, with an estimated 9,000 cfs for June and 10,500 cfs in July and 10,000 cfs in August. Keswick was modeled between 52.0° F and 52.5° F, and Balls Ferry at 56° F. Water temperatures are based on a 24-hour average, yet hourly readings indicate there can be as much as a 4 degree swing from minimum temperature to maximum temperature in a day.

USBR plans to include 7DADM graphs on the CVO information page. 7 DADM temperatures represent running 7-day average of the daily maximum temperatures that are calculated by averaging the current day's maximum temperature with the previous 6 days of maximum temperatures.

General Discussion

USBR plans to solicit feedback from the SRTTG on the temperature plan before it is sent to the SWRCB for approval.

SRTTG members expressed a desire for clarity on the role of the SRTTG to inform appropriate levels of participation (informational, decision-making, etc.). USBR responded that the SRTTG is currently enabling information-sharing, and policy decisions will be discussed at the SWIM Team level. USBR is holding parallel conversations with NGOs and contractors on similar content. Once the temperature plan is finalized, USBR will have more clarity on the role of the SRTTG.

CDFW expressed concern over the absence of information on carry over storage for next year. USBR anticipates approximately 2.6 million acre-feet will be available for storage by the end of September this year, which is approximately 1.5 million acre feet more than was available at the end of September, 2015.

Participants were reminded that the SRTM training session will be held at CalEPA on July 11-12. The first half-day will be an overview session with plenty of room for participants, and the second 1.5 days will be hands-on training limited to 24 participants.

Next Meeting

The next meeting of the SRTTG is scheduled for Thursday, July 28 at 1pm. Pending confirmation, the next SRTTG meeting will be held at FWS, Red Bluff. USBR's CVO office in Sacramento will serve as an alternate meeting location.